tion with serious eugenics seems to give greater scope to the author's wit and literary sparkle and even occasionally to afford him the opportunity for what seems suspiciously like a gentle tweak at the reader's leg.

In Chapter III the author considers the Eugenical Reform of the House of Lords, applying to it the principles set forth in the previous chapter. Naturally, the eugenical reform of what is, to a large extent, a political body involves a certain whimsicality in the treatment. Nevertheless, it is not only good and entertaining reading, but, mingled with sallies of a rather mischievous wit, contains a good deal of solid and sober wisdom, as, for instance, in the persuasive advocacy of the hereditary element in the Second Chamber. If there is a tendency occasionally to stray from strict eugenics into the domains of sociology and politics, these digressions do really constitute valuable contributions to an important question that is apt to receive less consideration than it deserves.

Of the remaining chapters—on the Eugenical Reform of the Plutocracy, of Democracy, and of the Intelligentsia, and on Eugenics and Industry, the last is, perhaps, the least satisfactory. Not that it does not abound in acute and thoughtful observations and even in valuable suggestions for the improvement of industrial conditions. But, apart from the fact that the connection between industry and eugenics is not very clearly established, there seems to be a certain amount of misunderstanding of industry itself. Professor Schiller is apparently able to conceive " a type of man very definitely superior to the average man of the present day " taking " shorter spells of manual labour " and " not finding it so repulsive when disguised as a pastime, or as a half-time job." Thus industry is conceived as mechanized industry, and the worker as, necessarily, a machine-minder. But it is fairly certain that the raising of the general intelligence would witness the disappearance of the machine-minder from all but the " heavy " and purely mechanical trades. In fact the tendency is already apparent. Men of superior intelligence are even now returning to industry as cabinet makers, weavers, potters, and in other trades in which the skilled workman can outdo the machine and find happiness in a whole-time job.

Considering this little book as a whole, we may fairly say that its importance is out of all proportion to its size. The second chapter, at least, sets forth a scheme of positive eugenics that is really practicable and that may conceivably form the basis of an actual social reform. And as to the rest of the book, it is full of matter that is at once informative and provocative of thought, set forth with a vigour and vivacity of expression that stimulates the interest of the reader and carries him easily through its pleasant pages.

R. Austin Freeman.

SCIENCE AND SOCIETY

McDougall, Professor William, F.R.S. *World Chaos: The Responsibility of Science.* London, 1931. Kegan Paul. Pp. vi+119. Price 3s. 6d.

The thesis which Professor McDougall sets out to prove is very fairly stated in the title, and especially the sub-title of this book, and the statement is amplified in the preface. Having commented briefly on the confusion and distress now prevailing throughout the civilized world, the author proceeds : " The thesis of this little book is twofold : first, that physical science has been the principal agent in bringing about the very rapid changes in our social, economic and political conditions which are the source of our present troubles; secondly, that in the development of the neglected social sciences lies our only remedy for those troubles."

With these propositions most of us will be prepared to agree, at least in general terms. We have, in recent years, received so many Greek gifts from physics and chemistry that we may follow with a good deal of sympathy the author's indictment of physical science and his blunt declaration that further enlargement of our knowledge in that direction promises to serve no useful

purpose. It will, indeed, be difficult to persuade people in general to accept this view. For physical science is, at present, the people's darling. It delivers the goods. It gives us motor-cars, aeroplanes, wireless, and the various other toys with which modern man is mainly preoccupied. That it also gives us poison gas, high explosives and certain other things which add neither to the gaiety of the present nor the security of the future, is apt to be overlooked; and the fact that it is gradually squeezing man out of industrial employment is still indignantly denied by the die-hard economists, though recognized by the industrialists who can compare their growing output and dwindling staffs. Hence Professor McDougall's plea that we should give the physical sciences a rest and turn our attention to the social sciences, especially psychology and biology, will be likely to be listened to with impatience, alike by the public and the physicists. For the former, dazzled by the triumphs of Science, are roaring for more wonders, and the latter are concerned chiefly with the advancement of knowledge rather than with its applications. Moreover, there is the practical difficulty that physicists are born, not made. It cannot be assumed that a great chemist or physicist has the makings of a biologist. In science, as in art, it is temperament that determines the chosen activity.

Nevertheless, we cannot but feel that Professor McDougall's contention is fundamentally sound. The proper study of mankind is man; and the study of man is primarily a biological study. The total neglect of biology by those who have undertaken the conduct of public affairs is largely responsible for the confusion into which those affairs have fallen; and the persistent tendency of economists to ignore the biological factors of social life is, in its turn, responsible for the attitude of the politicians, since so many of the latter are professed economists, and since present-day political practice is so largely based upon economic theory. Hence it is not surprising that Professor McDougall is rather severe with the economists. As an advocate of the application of biology to the study of social phenomena, he has, naturally, no use for "the economic man." "The assumption of an economic Robot," he points out, "dates from the early days of the classical Political Economy; it still survives in the implicit assumption that the laws of economics would be valid if only men were such Robots" (p. 80).

Having dealt faithfully with the economists, the author proceeds to the consideration of psychology, particularly in its application to a new and more enlightened form of economics. "Psychology, even in its present rudimentary and chaotic condition, is capable of rendering great services to the social sciences" (p. 105). But psychology does not admit of any great simplification. "The social application of psychological truths will always require to be made by men trained in and habituated to thinking in psychological terms" (p. 105). It may, therefore, be written off as a means available to the ordinary publicist and relegated to the office of an instrument of sociological research.

Turning now to the constructive suggestions, we learn with interest what the Professor proposes to do about it. Briefly, his remedy is the acquirement of more knowledge of the right sort. "We must actively develop our social sciences into real sciences; and, in order to do that, we must first create a science of the imponderables; in short, of human nature and its activities. But perhaps that is impossible. . . . What, then, in practical terms, is the remedy. I can give my answer most concisely by suggesting what I would do if I were Dictator. I would by every means seek to divert all our most powerful intellects from the physical sciences into research in the biological, the human and the social sciences; and our universities should be the main seats of such research" (p. 113). "It would take some twenty years to train the personnel. . . . On a hopeful view, another twenty years would elapse before substantial progress along this line might be expected. That would bring us to the year 1970, or thereabouts. Can we afford to wait

so long? Can our civilization survive in the meantime? I don't feel sure; but I hope it may: for I can see no alternative measures that offer hope of its salvation" (p. 119).

The reader may well share the Professor's doubts. It is a long time to wait—with the Gadarene procession well on the move. But is it true that there is no alternative? What about making some use of the knowledge that we already have? And is not the Professor exaggerating our ignorance? On p. 70 he observes: "It is true we have some beginnings of biology. . . . But we have no biology that can serve as the basis of the social sciences. . . ."

Surely this is an extreme overstatement. There is in existence a quite respectable body of biological knowledge; amply sufficient to indicate the essentials of a reasonable social policy. The trouble is that those who direct social policy do not possess that knowledge. To what—social—purpose should we pile up a further mass of biological knowledge when human affairs are conducted by men so ignorant of the most elementary biological truths as (apparently) to believe that the chief function of the *élite* of our population is to serve as foster-parents to the unfit? Moreover, if we look back on our recent Victorian ancestors, who, with vastly less knowledge than we have, were able to maintain a reasonable and stable social order and to accumulate the wealth which we have been, and still are, squandering with idiotic prodigality, we must realize that the deterioration of our social and political institutions has been progressing rapidly during a period marked by a great advance in biological knowledge. Other human activities, such as medicine, have progressed because the men who conducted them acquired and applied the new knowledge as it became available. But the politician is not even aware of any connection between biology and social policy.

But if we cannot unreservedly agree with Professor McDougall, we must not seem to be unappreciative of this admirable little book. Apart from the specific thesis, it is full of matter which is not only of the greatest interest but is calculated to influence public opinion in a very wholesome way. After all, the important thing is to get people to realize the bearing of biology on the conduct of public affairs; to understand the need of a social science which shall deal with man as man and not as an economic Robot. And this Professor McDougall's lively and vigorous exposition can hardly fail to achieve.

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